WHAT IS CLAIMED IS:

1. A method of producing an immunogenic construct, comprising the steps of:

(a) activating at least one first carbohydrate-containing moiety with an organic cyanylating reagent to form an activated carbohydrate; and

(b) coupling said activated carbohydrate directly or indirectly to a second moiety to form an immunogenic construct capable of stimulating an immune response.

2. A method according to claim 1, ~~wherein said~~ organic cyanylating reagent ~~is~~ 1-~~cyano~~-4-(dimethylamino)-pyridinium tetrafluoroborate, N-cyanotriethyl-ammonium tetrafluoroborate, or p-nitrophenylcyanate.

~~3.~~ 2. A method according to claim 1, wherein said organic cyanylating reagent is 1-cyano-4-(dimethylamino)-pyridinium tetrafluoroborate.

~~4. A method according to claim 3, wherein said first and second moieties are soluble in water.~~

~~5.~~ 3. A method according to claim ~~3~~ 2, wherein said activating step (a) is carried out at a pH of from 8 to 10, and said coupling step (b) is carried out at a pH of from 7 to 9.

~~6.~~ 4. A method according to claim ~~3~~ 2, wherein said activating step (a) is carried out in the presence of triethyl amine.

~~7.~~ 5. A method according to claim 1, wherein the coupling in step (b) is done indirectly by covalently joining the ~~first moiety~~ polysaccharide to a bifunctional or heterofunctional spacer reagent, and covalently joining the ~~second moiety~~ protein to the spacer reagent.

7 ~~8~~. A method according to claim ~~1~~ 6, wherein said spacer reagent is selected from the group consisting of ethylene diamine, 1,6-hexane diamine, adipic dihydrazide, cystamine, glycine, and lysine.

~~9. A method according to claim 1, wherein the first moiety is a polysaccharide and the second moiety is a protein.~~

8 ~~10~~. A method according to claim 1 ~~9~~, wherein the polysaccharide is selected from the group consisting of dextran, *Pneumococcal* polysaccharide, *Haemophilus influenzae* polysaccharide, Group A streptococcus polysaccharide, Group B streptococcus polysaccharide, and *N. meningitidis* polysaccharide.

9 ~~11~~. A method according to claim 1, wherein the polysaccharide ~~first moiety~~ is a water-soluble viral or bacterial polysaccharide.

10 ~~12~~. A method according to claim 1, wherein the protein ~~second moiety~~ is a water-soluble protein.

11 ~~13~~. A method according to claim 1, wherein the protein ~~second moiety~~ is selected from the group consisting of bovine serum albumin, pertussis toxoid, tetanus toxoid, malaria-derived peptide, an antibody, a toxoid, and a lipoprotein.

12 ~~14~~. A method according to claim 1, wherein the immunogenic construct is a conjugate selected from the group consisting of PT-Pn, PT-PRP, TT-Pn, antibody-dextran, and peptide-TT-Pn.

15. A method for producing an immune response, comprising:

(a) preparing an immunogenic construct by steps including (i) activating at least one first carbohydrate-containing moiety with an organic cyanylating reagent, and (ii) covalently joining said activated carbohydrate to a second moiety; and

(b) administering the immunogenic construct to a patient.

16. A method according to claim 15, wherein said organic cyanylating reagent is 1-cyano-4-(dimethylamino)-pyridinium tetrafluoroborate.

17. A method according to claim 16, wherein said activating step (a) is carried out in the presence of triethyl amine.

18. A method according to claim 16, wherein the first moiety is a polysaccharide and the second moiety is a water-soluble protein.

19. A method according to claim 18, wherein the polysaccharide is selected from the group consisting of dextran, *Pneumococcal* polysaccharide, *Haemophilus influenzae* polysaccharide, Group A streptococcus polysaccharide, Group B streptococcus polysaccharide, and *N. meningitidis* polysaccharide.

20. A method according to claim 16, wherein the second moiety is selected from the group consisting of bovine serum albumin, pertussis toxoid, tetanus toxoid, malaria-derived peptide, an antibody, a toxoid, and a lipoprotein.

19 ~~21~~. A method according to claim ~~16~~ 14, wherein the immunogenic construct is a conjugate selected from the group consisting of PT-Pn, PT-PRP, TT-Pn, antibody-dextran, and peptide-TT-Pn.

73